

## Outline of Newt Gingrich Testimony for May 22,2002

### We Must Expand Our Investment in Science

1. The Hart-Rudman Commission on National Security to 2025 warned that our failure to invest in science and to reform math and science education was the second biggest threat to our national security. It warned that only the threat of a weapon of mass destruction in an American city was a greater danger. In fact, the Commission unanimously concluded that the danger from under investing in math and science and failing to reform math and science education was greater than the danger from any conceivable conventional war.
2. The explosion of knowledge in nanoscale science and technology and in the quantum behaviors associated with that scale (from smaller than one atom to about four hundred atoms) represents a profound transformation in our understanding of the natural world. Every member of Congress should take time to learn the basics of nanoscale activities and the potential of quantum behaviors.
3. These changes will be so profound they will effect biology, chemistry, physics and the basic building blocks of every aspect of life and civilization. Our approach to health, the environment, productivity and national security will all be profoundly shaped by this emerging revolution in knowledge.
4. The knowledge breakthroughs of the next 20 years will equal the entire 20th century. In other words the rate of change is accelerating and in the next two decades will be about 5 times as fast as the 20th century. The rate will continue to accelerate and we will match the 20th century again between 2020 and 2035.
5. Countries which fail to invest in basic science and math and which fail to insist on adequate math and science education will fall behind economically and in national security capabilities.
6. The United States lead today is a function of past investments. Our ability to lead in 2020 is a function of current decisions. There is no reason today to believe we will automatically maintain that lead.
7. We graduate too many lawyers and too few scientists and engineers. We produce too few high school students capable of doing college math and science and too few college graduates capable of doing graduate work in science and math.
8. If the present trends continue we will be surpassed by China and India in the next generation and we might be passed by Japan and Europe.
9. To meet this challenge the National Science Foundation should be increased to a \$15 billion a year budget. It is clear that the National Science Foundation could invest \$11 billion a year within current constraints (see prior testimony by the Director, Dr. Colwell). It is clear that instrumentation, education, and research projects could absorb a \$15 billion level productively.

10. The National Nanotechnology Initiative should immediately be expanded to \$1,100,000 in the coming year and should grow at 15 to 20% a year after that.

11. The National Institutes of Health should be instructed to invest at least three per cent of their research efforts into nanoscale activities.

12. The math and science educational efforts at k-12 and in undergraduate collegiate education have to be thoroughly overhauled with a focus on results rather than intentions. Reforming education in this area is a matter of national security priority and if we fail at it we should expect to decline as a power and to fall behind other countries in a generation.

13. The Congress should contract with the National Academy of Sciences for paid analysis and advice instead of attempting to recreate the Office of Technology Assessment. Every member of Congress should spend some time each year becoming scientifically informed.